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INTELLIGENCE MEMORANDUM

THE IMPLICATIONS OF THE 1957 PLAN
FOR THE PRODUCTION OF CEMENT IN COMMUNIST CHINA

CIA/RR IM-451

15 May 1957

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CIA/RR IM-451
(ORR Project 47,1760)

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THE IMPLICATIONS OF THE 1957 PLAN
FOR THE PRODUCTION OF CEMENT IN COMMUNIST CHINA*

Summary

On 11 March 1957 it was announced that the production of cement in Communist China in 1957 would be 6.87 million metric tons** -- an increase of 470,000 tons above the level of production in 1956 and an overfulfillment of the original goal for 1957 of almost 1 million tons. This increase of 470,000 tons falls short of the average annual increase of at least 1 million tons necessary to achieve the goal of the Second Five Year Plan (1958-62) of producing from 12.5 million to 14.5 million tons in 1962.

The 1957 Plan for cement production is indicative of a reduced over-all construction program and is aligned to its requirements. The modest increase in the 1957 Plan, however, does not necessarily indicate that the goals for capital investment in the Second Five Year Plan have been reduced.

The estimated annual capacity of new plants known to be under construction or planned for completion by the end of 1959 is about 3 million tons. Because intensive construction activity in 1956 resulted in cement plants being operated at peak rates, there is little margin for additional production in 1957 from existing capacity. If even the lower limit of the production goal for 1962 is to be achieved, additional plants having a total capacity of 3.7 million tons will have to be started before mid-1959, because the normal construction period for cement plants in Communist China is from 2 to 3 years. If substantial starts are not made before mid-1959, resultant shortages of cement not compensated by imports would require revision of the capital investment program of the Second Five Year Plan.

* The estimates and conclusions contained in this memorandum represent the best judgment of ORR as of 1 May 1957.

** Tonnages are given in metric tons throughout this memorandum.

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1. Planned Production in 1957.

The New China News Agency (NCNA) announced on 11 March 1957 that production of cement in Communist China in 1957 would be 6.87 million tons -- an increase of 470,000 tons above the level achieved in 1956 -- and that 2 plants, 1 in northwest China and the other in southwest China, would go into operation later this year. It also stated that two other plants, on which construction was originally scheduled to be started during the Second Five Year Plan, were already under construction. 1/*

Production of cement in Communist China in 1956 reached 6.4 million tons, exceeding the original 1957 goal of the First Five Year Plan (1953-57) by 400,000 tons. 2/ The revised goal for 1957 of 6.87 million tons will almost certainly be achieved,** thus overfulfilling the original goal by nearly 1 million tons.

Intensive construction activity in 1956 placed extreme demands on the cement industry. In spite of the substantial increase in production in that year -- 42 percent above that achieved in 1955 5/ -- there were shortages of cement throughout the economy. 6/ The 42-percent increase in production in 1956 above the level of 1955 fell below the anticipated increase in demand of 59 percent. 7/ Plants were operated at peak rates to alleviate this shortage in 1956, leaving little margin for additional production in 1957 from existing capacity.*** The accelerated operation in 1956 indicates that "down time"**** in 1957 will be considerable and that the operating rate

* For serially numbered source references, see the appendix.

** The increase in production of 470,000 tons can be accounted for by the output of the Kung-yuan plant, which began operation in July 1956, 3/ and that of the Ta-t'ung plant, which began operation on 1 March 1957. 4/

*** About 70 percent of the increase in production achieved from 1952 through 1956 was obtained by more efficient utilization of capacity. 8/ The operating rate (production as a percent of capacity) for the industry as a whole is estimated to have increased from 59 percent in 1952 to about 94 percent in 1956. This overstates the actual increase in efficiency, however, because the use of slag materials in the final grinding process has been counted in the estimate as an addition to production, but not as an accompanying addition to production capacity.

**** Down time refers to the time necessary to repair and renovate kilns, grinders, and other production machinery.

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will thus fall below the estimated 94 percent achieved in 1956. Estimated requirements for cement in 1957, however, are not greatly above production in 1956, and the increase of 470,000 tons in production can be met satisfactorily without recourse to as high an operating rate as in 1956.

The 1957 Plan for cement production is indicative of and geared to current construction activity in Communist China. In the economy as a whole a shortage of raw materials and other capital resources brought on by the rapid rate of growth since 1953 has resulted in a nationwide program of retrenchment in 1957. The economic planners of Communist China apparently feel that the consolidation in 1957 of past gains will provide a stronger base on which to launch the Second Five Year Plan in 1958. Capital investment is expected to drop 10 to 15 percent below the level attained in 1956. 9/ Industrial investment, including investment in facilities for the manufacture of construction materials, will be increased slightly, whereas nonproductive construction projects (administrative buildings and the like) are scheduled to absorb the greater part of the decrease. 10/

During 1957, construction of 175 major industrial projects carried over from 1956 will be completed -- more completions than in any year in the First Five Year Plan. 11/ In this last and most expensive phase of capital construction -- installation of machinery and equipment -- requirements for cement are less than in the earlier phases. Therefore, in spite of the fact that such large projects as the Wuhan metallurgical combine 12/ and the San-men and Hsi-nan hydroelectric projects 13/ will be in the early phase of capital construction requiring large amounts of cement, it appears that the 1957 Plan for cement is geared to the reduced requirements of the over-all construction program.

2. Construction of New Plants, 1957-62.

Further evidence that production of cement in 1957 in Communist China has been adjusted to the requirements of a reduced construction program is seen in an apparent slowdown in putting plants now under construction into operation. One of the 2 plants slated for completion "later this year" is the Yung-teng plant near Lan-chou, which will have an estimated annual capacity of 450,000 tons.* 15/

* The other plant to be completed in 1957 is probably that at Chungking, which is being expanded to double its previous capacity. 14/

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Installation of equipment began there in August 1956 16/ and should have been completed before April 1957.* Another plant apparently affected by the retrenchment program in 1957 is the Urumchi Plant No. 2, which was originally slated for completion in the third quarter of 1957 17/ but which was not mentioned in the NCNA announcement of 11 March 1957.**

During the 6-year period from 1957 through 1962, annual production must be increased by 6.1 million tons, or an average increase of a little more than 1 million tons annually, if even the lower range of the goal for 1962 (12.5 million tons) is to be met. The estimated annual capacity of cement plants which are known to be either under construction or in the planning stage in 1957-62 is shown in the table.***

If all plants are completed on schedule, little more than 3 million tons of capacity will be added by new construction by the end of 1959. Additional capacity**** of 3.7 million tons must be derived from the construction of new plants and expansion projects beyond those known to be under way if the minimum production goal for 1962 is to be reached. In this connection the time factor is crucial. Because 2 to 3 years has been a normal construction period for new cement plants in Communist China, all of the additional starts necessary to provide the 3.7 million tons of additional capacity should be made no later than mid-1959.

* Delays in delivery of equipment from East Germany may be the reason for belated completion at Yung-teng. Such delays of equipment for the entire industrial program probably have contributed substantially to the Chinese Communist decision to reduce capital investment in 1957.

** A slowdown in completion of the Urumchi Plant No. 2 may have been the result of slackening construction activity in Sinkiang Province. For example, the plan for new railroad construction in 1957 stated that only 36 kilometers of track on the Trans-Sinkiang railroad would be laid on this line during the year, 18/ whereas 478 kilometers are estimated to have been laid in 1956. 19/

*** The table follows on p. 5.

**** Although the Chinese Communists have not yet clearly differentiated between production and capacity, it is assumed that production can be maintained at an average of 90 percent of capacity from 1957 through 1962. Thus, in order to achieve an increase in production from 1957 through 1962 of 6.1 million tons, nearly 6.8 million tons of capacity will have to be added.

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Table

Estimated Annual Capacity of Cement
Plants Under Construction in Communist China a/
1957-59

| Location | Estimated Annual Capacity (Thousand Metric Tons) | Estimated Date of Completion |
|-----------------------------|---|---------------------------------|
| Kung-yuan | 300 <u>b/</u> | 1956 |
| Ta-t'ung | 480 | 1957 |
| Yung-teng | 450 | 1957 |
| K'un-ming | 360 | 1958 |
| Sian | 680 | 1958 |
| Urumchi (No. 2) | 150 | 1958 |
| Kuei-shan <u>c/</u> | 360 | 1959 |
| Szechwan Province <u>d/</u> | 360 | 1959 |
| Total | <u>3,140</u> | |

a. 20/

b. This figure is the capacity at Kung-yuan which was not available in 1956 because of midyear completion and which is therefore attributed to 1957. Of the total capacity of 450,000 tons, 150,000 tons are estimated to have been realized in 1956 and 300,000 tons in addition in 1957.

c. This plant is in the design stage. 21/

d. The exact location of this plant is unknown.

Reports that the capital investment targets for the Second Five Year Plan enumerated at the Eighth Party Congress in September 1956 have been reduced are not confirmed by Chinese Communist announcements. The 1957 Plan for cement production appears to be aligned to require-ments in a year of economic retrenchment and does not necessarily validate such reports. Barring compensating imports, if substantial starts on new cement plants are not made before mid-1959, the goals for capital investment in 1962 will have to be revised.

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APPENDIX

SOURCE REFERENCES

Most of the information in this memorandum was obtained from statements in the press and radio published by the Foreign Broadcast Information Service and the Foreign Documents Division of CIA. A previously published report, CIA/RR PR-140, The Cement Industry of Communist China, 27 April 1956, SECRET, served as a basis for this memorandum.

Evaluations, following the classification entry and designated "Eval.," have the following significance:

| <u>Source of Information</u> | <u>Information</u> |
|------------------------------|--------------------------------|
| Doc. - Documentary | 1 - Confirmed by other sources |
| A - Completely reliable | 2 - Probably true |
| B - Usually reliable | 3 - Possibly true |
| C - Fairly reliable | 4 - Doubtful |
| D - Not usually reliable | 5 - Probably false |
| E - Not reliable | 6 - Cannot be judged |
| F - Cannot be judged | |

"Documentary" refers to original documents of foreign governments and organizations; copies or translations of such documents by a staff officer; or information extracted from such documents by a staff officer, all of which may carry the field evaluation "Documentary."

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All sources in this memorandum are evaluated RR 2.

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